**Geothermal workshop in Iceland**

With the financial support of the European Economic Area Financial Mechanism (shortly EEA Grants) 2009-2014, the Municiplaity of Budapest had the possibility to take part in a 3 day long Geothermal workshop in Iceland. 27 decision makers and engineers could take part in this short, practise focused event to acquire knowledge about the usage and utilization of geothermal energy and to strengthen billateral connection with donor countries. The workshop was executed with the assistance of the Ministry of National Development as program operator, and the Iceland National Energy Authority as Donor Partner. The training was supported by the European Economic Area Financial Mechanism Renewable Energy program with a funding of 134.900 Euros and 100 % intensity.

Only those municiplaities could apply for the HU03-Bilat-A-2017 tender announced by the Ministry of National Development, who are commited in the utilization of geothermal energy .

The utilization of geothermal energy started in Iceland during the first World War (1914.-1918.) when the price of coal on the global market started to rise and the available supplies were scarce. This was the first time when the idea of geothermal powered district heating emerged. At this time some of the icelandic farmers were using geothermal waters to heat farm-buildings for nearly 10 years.

After 2 years of exploration and drilling 3 km-s of district heating network was built in 1930, providing heat for 2 schools, a bath, the central hospital and some of the public buildings. The next important milestone was the establishment of the Geothermal Energy Fund and the National Drilling Company, which made the building of 20 district heating systems possible with financial help, in more then 350 cases. The professional background of the workshop was provided by Orkustofnun ( Icelandic National Energy Authority), which is responsible for the innovation and licensing of geothermal energy and every other renewable energy resource.

The program consisted of two important parts. The first part of the workshop was theoretical training about the utilization and finance of geothermal energy and the second part was about the practical informations. The group had the chance to visit one of the biggest geothermal energy plant, the Hellesheidi power station which provides 303 Mw energy for the people of Reykjavik. The electricity is produced with the help of very hot (160 Co), high pressured steam which powers the 7 turbines. Through the process hot water is also produced which can be used for district heating purposes.

Iceland is capable of growing great amount of vegetables and fruits for itself with the help of green-houses. These are also heated with thermal water and can even produce tropical fruits. In the green-houses of the Icelandic Agricultural University the group had the chance to walk in a banana plant where the trees were blooming and producing eatable fruits.

The geothermal potency of Budapest is also high, and this energy could be harnessed and used. Nowdays the main utilization of this energy are thermal baths such as Széchenyi Thermal Bath and Spa but additional possibilities should be explored. An important project for the capital city was when Széchenyi Thermal Bath and Budapest District Heating Company joined forces to reduce the carbon emission of the Zoo and spare on energy costs by realizing the heat and hot water supply of the Zoo with the collaboration of the Spa. To help the utilization of geothermal energy, atleast a study should be made to promote this kind of enviromental friendly energy.